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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/400,568      | 09/21/1999  | JOSEPH C. FLOYD      | 96B037/3            | 3555             |

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EXAMINER

CHEUNG, WILLIAM K

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1713

DATE MAILED: 03/27/2002

15

Please find below and/or attached an Office communication concerning this application or proceeding.

T-P-15

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/400,568 | <b>Applicant(s)</b><br>FLOYD ET AL. |  |
|                              | <b>Examiner</b><br>William K Cheung  | <b>Art Unit</b><br>1713             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Request for Continued Examination***

1. The request filed on March 7, 2002 for a Request for Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 09400568 is acceptable and a RCE has been established. An action on the RCE follows.
2. Claims 1-8 are cancelled by the Preliminary Amendment under 37CFR1.115 submitted by attorney William G. Muller on September 21, 1999.
3. In view of an amendment submitted by attorney (Paper No. 8) on May 29, 2001, cancel claim 9 and add new claims 19-20.
4. The examiner acknowledges the receipt of amendment (Paper No. 11) submitted by attorney on January 22, 2002, the amendment for claims 10-14 have been entered in view of the RCE request filed on March 7, 2002. Claims 10-20 are pending.
5. In view of amendment (Paper No. 11) submitted by attorney on January 22, 2002, the rejection of claims 10-14 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 10 -20 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jejelowo (US 5,359,015).

*The invention of claims 10-20 relates to an **ethylene homopolymer or copolymer** having a melt index ratio (**MIR**) **less than 35**, preferably **less than 25**, a molecular weight distribution (**MWD**) of **2 to 15**, a comonomer distribution breadth Index (**CDBI**) equal or greater than 60, and a melt strength (**MS**) equal or greater than **[6.0 – (6.0 x log (MI))]** or equal or greater than **[8.0 – (6.0 x log (MI))]**. Further the MI ranges from **0.3 to 1.2**. The comonomer for the copolymer is a **C<sub>3</sub> to C<sub>8</sub> α-olefinic monomer**.*

Jejelowo discloses a **polymerization process** to make ethylene homopolymers and copolymers (col. 21, line 37). In working examples, Jejelowo discloses a **gas phase** polymerization process (col. 16, line 59) to make **ethylene/1-butene copolymer** (col. 16, line 52-53; line 56-59) using an **asymmetric substituted cyclopentadienyl ligands** (col. 16, line 20-21) **metallocene catalyst** based on the use of **zirconium** transition metal (col. 16, line 37). The copolymer products have a **density** in the range of **0.904 to 0.944 g/cm<sup>3</sup>** with a **MWD ranges from 2.4 to 2.6** (col. 17, Table 1, Examples 3 & 4). In view of the substantial similarities in catalyst, monomer, and comonomer composition and similar gas phase polymerization process in the disclosure of Jejelowo and the

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disclosure in the instant application, the examiner has a reasonable basis to believe that the additional limitations on MIR, CDMI and the mathematical relationship between MS and MI are inherently possessed by Jejelowo. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. **In re Best**, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); **In re Fitzgerald**, 205 USPQ 594 (CCPA 1980).

Even assuming the MIR, CDMI and the mathematical relationship between MS and MI set forth in claim 19 and the MIR, CDMI and the mathematical relationship between MS and MI of Jejelowo are not the same, it would still have been obvious to one of ordinary skill in art to make ethylene homopolymers and copolymers having the claimed properties because the disclosure of Jejelowo generically embrace the claimed ethylene homopolymers and copolymers and the person of ordinary skill in the art would have expected all the embodiments of the reference to work.

Although claim 19 is claiming elements that are not disclosed by the prior art, however, the claimed product invention as a whole is substantially identical to the product disclosed in the prior art and in light of the specification of the instant application. Further, applicants argue that the instant invention differs from the invention disclosed in the prior art is that the instant invention relates to an ethylene-base polymer product prepared by a bridged metallocene catalyst while the ethylene-base polymer product of Jejelowo is prepared by an unbridged metallocene catalyst. However,

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according to the specification of the instant application, applicants disclose the use of unbridged and bridged metallocene catalyst for preparing the inventive ethylene based polymer products (see Table 1 to IV, page 16-25). According to Table I to IV, the examiner does not find any noticeable differences between the polymers prepared by using unbridged and bridged metallocene catalysts. Therefore, applicants fail to show the criticality of using unbridged and bridged metallocene catalysts for preparing the ethylene based polymers.

In view of lack of criticality of using bridged metallocene catalysts for preparing the ethylene based polymers, the rejection of claims 10-20 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jejelowo (US 5,359,015) is proper because the determination of patentability is based on the product itself even for product-by-process claims. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

***Response to Arguments***

9. Applicant's arguments filed January 22, 2002 have been fully considered but they are not persuasive.

Applicants argue that the ethylene-based polymer products being claimed as product-by-process should be allowable because applicants argue that the instant invention differs from the invention disclosed in Jejelowo is that the instant invention relates to an ethylene-base polymer product prepared by a bridged metallocene catalyst while the ethylene-base polymer product of Jejelowo is prepared by an unbridged metallocene catalyst. Because of the distinctive bridged versus unbridged metallocene catalyst differences, applicants believe that applicants' ethylene-base polymer products should be different as compared to the ethylene-base polymer products of Jejelowo. However, when applicants file such argument, applicants fail to recognize that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). [see MPEP 2113].



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In working examples, Jejelowo discloses that the ethylene-based polymer products have a density in the range of 0.904 to 0.944 g/cm<sup>3</sup> with a MWD ranges from 2.4 to 2.6 (col. 17, Table 1, Examples 3 & 4) which are within the density and MWD ranges disclosed in applicants' application. In view of the substantial similarities in catalyst, monomer, and comonomer composition and similar gas phase polymerization process in the disclosure of Jejelowo and the disclosure in the instant application, the examiner believes that the ethylene-based polymer products of Jejelowo and applicants' ethylene base polymer products are substantially identical because the examiner believes that fundamentally that properties of olefin polymers are based on the basic comonomer content, constitutive structure, density, molecular weight, and molecular weight distribution. Because Jejelowo discloses density and MWD properties of the ethylene-based polymer products that are within the range being claimed, it would be very difficult to believe that they are not substantially identical. Because the examiner takes position that the polymer products are substantially identical, the examiner has a reasonable basis to believe that the additional limitations on MIR, CDMI and the mathematical relationship between MS and MI are inherently possessed by Jejelowo. Therefore, in view of the reasons set forth above, the rejection of claims 10-20 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jejelowo (US 5,359,015) is proper. Unless applicants include additional distinguishable property limitations between the polymer product of Jejelowo and applicants' polymer product in the claims, the rejection of claims 10-20 stands proper.

2113 Product-by-Process Claims

PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

***Conclusion***


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (703) 305-0392. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5885 for regular communications and (703) 305-5885 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



William K. Cheung  
March 22, 2002



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700